

## Abstract

Disclosed is a method for quantitatively determining the width of a soft zone area of a partially hardened metallic workpiece, which has at least one hardened and one unhardened area, by means of at least one multifrequency eddy current sensor. A single workpiece being individually is moved relative to the multifrequency eddy current sensor in such a manner that a spatially delimited eddy current field generated by the multifrequency eddy current interacts with the workpiece contactlessly, generates eddy currents therein which, in turn, generate a measuring signal in the multifrequency eddy current sensor, in which the spatially delimited eddy current field has a greatest extension oriented in longitudinal direction to the surface of the workpiece which extension is greater than the maximum extension of the soft zone area in longitudinal direction of the surface of the workpiece.